

Statewide Rail Capacity and System Needs Study Benefits/Impacts Evaluation Methodology Development

presented to
**Washington State
Transportation Commission**

presented by
**Cambridge Systematics, Inc.
Berk & Associates, Inc.
Global Insight, Inc.
HDR, Inc.
Starboard Alliance Company
Transit Safety Management
Willard F. Keeney & Associates**

September 19, 2006



Washington State
Transportation Commission



Agenda

- **Review of framing ideas and progress since last WTC update**
- **Benefits/Impacts evaluation methodology presentation**
- **Discussion/feedback:**
 - **Guiding, sector and program policies (handouts)**
 - **Benefits/Impacts evaluation methodology**
- **Next steps**

Framing Ideas and Progress

- **Feedback from Washington State Transportation Commission**
 - Re-focus study on 2 major questions
- **Feedback from Legislative staff**
 - Goals of Benefit/Impact evaluation methodology
- **Feedback from Governor's staff**
 - Assumptions about State's role
- **Technical Resource Panel (TRP) input and feedback**
 - Evaluation criteria and guidance

Objectives of Benefits/Impacts Methodology

- **The Benefits/Impact methodology is meant to accomplish the following:**
 - **Establish a methodology that can be used to evaluate the program policies or specific actions/projects**
 - **Determine the conditions under which the State will participate in the private rail sector**
 - **Determine the State's level of participation in a private sector action**
 - **Evaluate future projects/programs and actions at the State level**

Step 1: Guiding, Sector and Program Policy Statements

- **Guiding Policies**, which are overarching and broad statements of intent that embody the State's philosophy towards the statewide rail system
- **Sector Policies**, which are more specific and target each of the four primary user groups of the State's rail system (Ports and International Trade, Industry, Agribusiness, and Passenger Rail)
- **Program Policies**, which are detailed and specific policy statements that add an additional level of focus to the project/action selection process.

Step 1: Guiding, Sector and Program Policy Statement Samples (Handouts)

- **Guiding Policies:** The State may play a roleif the action assists in supporting and enhancing the economic relationship between Washington State and the rest of the nation and its trading partners
- **Sector Policies:** The State will take action to encourage the competitiveness of its port and international trade sector to encourage jobs and economic growth....
- **Program Policies:** New Terminal Development program..the State may provide assistance in identifying sites for new intermodal terminals and conducting site preparation activities...

Benefits/Impact Methodology: Goal Matrix

Benefit Evaluation Cross-User Group Comparison							
Proposed Action	WA State	Passengers/ Shippers	Railroads	Community Benefits	Likely Recommendation	Level of Action	Examples
A	High	High	High	High	State should participate, but only if other beneficiaries contribute appropriate share	Consider direct investment and supporting legal and institutional mechanisms	Consider sources such as: additional dedicated state freight rail funds, Federal funding sources through SAFETEA LU, other state matching sources
B	High	Low	Low	High	State should participate and be prepared to contribute more than other groups	Consider direct investment and supporting legal and institutional mechanisms	Consider sources such as: additional dedicated state freight rail funds, Federal funding sources through SAFETEA LU, other state matching sources
C	Medium	Medium	Medium	Medium	State should participate with caution- and only if costs to do so are low	Consider tax exempt financing loans or other methods that have limited costs to state but benefit private industry	Consider Public Private Partnerships, tax credits, other non-financial incentives.
D	Low	High	High	Low	State should probably not participate	State should probably not participate with financial, institutional, or legal mechanisms	No State role is anticipated
E	Low	Low	Low	Low	State should probably not participate	State should probably not participate with financial, institutional, or legal mechanisms	No State role is anticipated

Step 2: Benefit/Impact Methodology Selection of Metrics

- **Best practices review of rail Benefit/impact metrics used by other States and organizations (Federal Railroad Administration, etc.)**
- **Consultation with TRP experts including representatives from: ports, shipping industry, railroads, community associations, advocacy groups, transit agencies, etc.**
- **Metrics derived from the guiding, sector and program policies**

Benefits Focus on a “Few Good Measures” for Each Primary User Group

● Washington State

- Positive rating on Public B/C Indicator
- Other criteria fulfillment (project readiness, railroad priority, community goals, etc.)

● Shippers/Passengers

- Impact on service
- Impact on shipping costs
- Impact on reliability
- Impact on Mobility

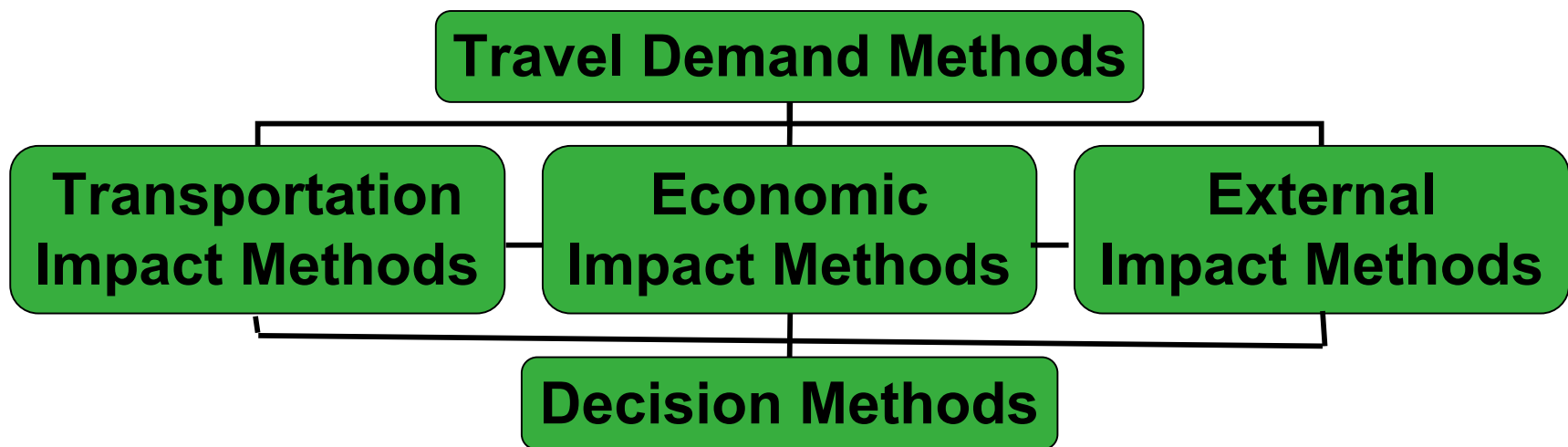
● Railroads/Carriers

- Throughput/velocity
- Increased traffic
- Reliability
- Competition

● Communities

- Economic development
- Safety concerns/issues
- Minimal environmental impact

Rail Benefits Calculator Framework



Rail Benefits Calculator Calculations

- **Transportation and Economic Benefits**
- - Maintenance costs saved from trucks diverted to rail
 - Reduction in shipper costs (for shipments originating in-state)
 - Reduction in automobile delays at grade crossings
- **Economic Impacts**
 - New or retained jobs
 - Tax increases from industrial development
- **External Impacts**
 - Safety improvements
 - Environmental benefits

Rail Benefits Calculator Demonstration

Washington Transportation Commission Rail Investment Benefit/Cost Indicator Project Detail

Railroad Name	BNSF	RR Project Priority	10
Project Name	Siding #13	Total Project Cost	\$6,500,000
		% WSDOT Share of Cost	50.0%
Annual Truck to Rail Diversion	500	<input checked="" type="checkbox"/> Phase In	<input checked="" type="checkbox"/> All First Year
Total Non-Rail Jobs	0	<input checked="" type="checkbox"/> Phase In	<input checked="" type="checkbox"/> All First Year
Average Annual Pay	\$32,915		
Total Sq. Ft. New Business Served	0 sqft	<input checked="" type="checkbox"/> Phase In	<input checked="" type="checkbox"/> All First Year
Annual Tax \$/Sq Ft	\$0		
Trip Time Reduction	0 minutes		
Hwy-Rail Grade Crossings Impacted	0		
Reduction in Crossing Blockage	0 minutes	0 Road AADT	
Avg Length of Haul	300 miles	100% in Washington	

Step 3: Evaluating Benefits/Impact to Washington State: Supplemental Questions

Benefit Evaluation For Washington State				
Category	Question/Criteria	Value	Yes	Points
Benefit/Cost	Does the Rail Investment Benefit/Cost Indicator suggest a good public benefit?			
	Recommended by B/C indicator	20		
	B/C = > 1	10		
	B/C < 1	0		
Current	Does the action address a current railroad problem?	1		
Priority	Is this project one of the top priority projects of the railroad?	1		
Readiness	Does the project appear to be "ready?" i.e. is there already an EIS, Preliminary Engineering, etc.?	1		
Funding	Do all matching funds appear to be in place?			
	Yes, there are already partners available	2		
	There is some talk of partnership, nothing is finalized	1		
Community	Does the project have the support of the community?	1		
	Does the project contribute to geographic equity?	1		
	Does the project address a particular societal concern such as noise?	1		
Environment	Does the project have environmental benefits?			
	Yes, it will have considerable truck to rail conversion	2		
	Unclear, but the project will not unnecessarily harm the environment	1		
Security	Does the project address a particular security concern?	1		
Technology	Does the project introduce a new and beneficial technology?	1		
Total Points		32		
			22-32	High
			12-21	Medium
			<12	Low
Relative Rating				

Step 3: Evaluating Benefits/Impact to Shippers/Passengers

Benefit Evaluation For Passengers/Shippers				
Category	Question/Criteria	Value	Yes	Points
Reduced Business Costs to Shippers	Shipping costs saved= (Truck rate – rail rate)* (Avg. tons per truck) * Distance*			
	Diversions			
	Savings in shipping costs	10		
	No discernable savings in shipping costs	0		
Reduced Travel Costs to Passengers	Will the action result in measurable time savings to passengers?			
	Yes	8		
	No	0		
	Will the action reduce the cost of travel to passengers?	2		
Service	Does the action appear to improve the service options available to passengers/shippers?	1		
	Does the action appear to improve the service quality offered to passengers/shippers?	1		
	Does the action improve the passengers/shippers access to rail service?	1		
Reliability	Does the action offer improved reliability to passengers/shippers?	2		
	Does the action offer improved reliability of access to rail for passengers/shippers?	2		
Total		17		
			12-17	High
			6-11	Medium
			<5	Low
Relative Rating				

Step 3: Evaluating Benefits/Impact to Railroads

Benefit Evaluation For Railroads						
Category	Question/Criteria		Value	Yes	Points	
Increased Velocity	Will the action improve the velocity of rail on the system?	Yes, significantly	10			
		Somewhat	5			
		No	0			
Train Hours of Delay	Will the action reduce the amount of train hours of delay?	Yes	5			
		No	0			
Yard dwell time	Will the action reduce train yard dwell time?	Yes	5			
		No	0			
Increased Rail Traffic	Will the action increase the amount of traffic carried on rail?	Yes, significantly	10			
		Somewhat	5			
		No	0			
Total			30			
					21-30	High
					10-20	Medium
					<10	Low
Relative Rating						

Step 3: Evaluating Benefits/Impact to Communities

Benefit Evaluation For Communities				
Category	Question/Criteria	Value	Yes	Points
Congestion	Does the action relieve community congestion from railroad and automobile interactions?			
	Yes, provides tremendous congestion relief	10		
	Provides some congestion relief	5		
	Has no discernable congestion impacts	0		
Increased Safety	Does the action increase safety by reducing train/automobile incidents?	2		
	Does the action increase safety by creating new mobility effects for emergency vehicles?	2		
Economic Development	Does the action appear to support community economic development goals?			
	Yes, the action directly supports economic development goals	5		
	The action has some secondary economic development benefits	2		
Environmental Impact	Does the project have excessive environmental impact?			
	Yes	0		
	No	1		
Total		20		
			15-20	High
			9-14	Medium
			<9	Low
Relative Rating				

Step 4: Evaluating Benefits/Impacts Across User Groups, Determination of Possible State Response

Benefit Evaluation Cross-User Group Comparison							
Proposed Action	WA State	Passengers/ Shippers	Railroads	Community Benefits	Likely Recommendation	Level of Action	Examples
A	High	High	High	High	State should participate, but only if other beneficiaries contribute appropriate share	Consider direct investment and supporting legal and institutional mechanisms	Consider sources such as: additional dedicated state freight rail funds, Federal funding sources through SAFETEA LU, other state matching sources
B	High	Low	Low	High	State should participate and be prepared to contribute more than other groups	Consider direct investment and supporting legal and institutional mechanisms	Consider sources such as: additional dedicated state freight rail funds, Federal funding sources through SAFETEA LU, other state matching sources
C	Medium	Medium	Medium	Medium	State should participate with caution- and only if costs to do so are low	Consider tax exempt financing loans or other methods that have limited costs to state but benefit private industry	Consider Public Private Partnerships, tax credits, other non-financial incentives.
D	Low	High	High	Low	State should probably not participate	State should probably not participate with financial, institutional, or legal mechanisms	No State role is anticipated
E	Low	Low	Low	Low	State should probably not participate	State should probably not participate with financial, institutional, or legal mechanisms	No State role is anticipated

Benefits/Impacts Evaluation Methodology

- **The Benefits/Impact methodology allows the WTC and Legislature to:**
 - **Evaluate any proposed program policy or specific actions/projects**
 - **Determine the conditions under which the State will participate in the private rail sector**
 - **Determine the State's level of participation in a private sector action**
 - **Evaluate future projects/programs and actions at the State level**